

State Discussion Topics – 2003

Utah DOT Response

1. What is the status of Superpave implementation for both binder and mixtures?
Both are fully implemented.
2. What are the primary PG binder grades being used? Does your state use any SHRP plus tests and the reason for their use? Do you have any plans to implement AASHTO MP1a? **Our primary asphalt binder grades are: PG 64-34, PG 64-28, and PG 70-28. We do have SHRP Plus Specs. We specify a maximum phase angle and minimum G*, Along with Toughness and Tenacity and Direct Tension Failure Strain for modified binders (rule of 92 and greater). We do not plan on implementing MP1a in the foreseeable future.**
3. There has been much recent discussion on the affects of acid modification of binders. Is your state concerned with the issue of chemical modification? Does your state have any specifications to address chemical modification of PG binders?
Yes, we are in the process to eliminate acid modification. This is contingent upon developing a workable screening test. We are investigating using X-Ray diffraction at the present. We have a meeting set up on October 23 with our Binder Suppliers to present the proposed new specification.
4. There has been a concern that Superpave mixtures may be over compacted, resulting in low binder contents and reduced durability and fatigue life. Is your state doing any testing, other than gyratory compaction, do determine if the mixture has adequate binder? Has your state taken any action or modified the Superpave procedures to insure adequate binder in the mixture? **The Hamburg Rut Test must be passed for an approved mix design. This helps insure they have enough binder to be durable enough to pass the test and that the hydrated lime is mixed in properly. We have also decreased our air void target to 3.5%.**
5. What procedures does your state use to specify aggregate durability for HMA (sodium sulfate, magnesium sulfate, freeze thaw, or other)? Have you done any research with Micro Deval and do you have any plans to replace your present specifications with Micro Deval? **We use a maximum of 16 percent loss when subjected to five cycles of the sodium sulfate test, AASHTO T 104. We use the L. A. Wear Test AASHTO T 96 with a maximum of 35 percent loss for our high volume roads and 40 percent loss for our low volume roads. We are in the process of a Mico Deval study in our state.**
6. Does your state routinely specify Stone Mastic Asphalt (SMA) mixtures? Approximately how many tons of SMA is placed each year? Do you use AASHTO MP2 and PP41 for specifications and design or what significant modification to these have you made? Do you have any construction quality issues and how are SMA mixture performing? **Our first project will be next year.**

7. Has the performance of longitudinal joints been as issue? What type of joint is required or generally constructed by contractors? Do you require any QC or QA procedures such as density or permeability at the joint? **No. We tack the mostly vertical joint and then roll it from the out side first so they have enough stability from the lateral side to pinch the material in when they compact the joint.**
8. Do you regularly see paver related segregation (linear streaks either at or just below the mat surface) and do you have a specification to address it? Do feel temperature segregation is a problem and do you have a specification to address it? **We sometimes have paver related segregation. We do not have a specific specification to address segregation problems, but the following tests help to strongly discourage it. We sample our HMA behind the paver , before compaction, for AC content and gradation. We also take random cores behind the paver after compaction for density. We also have a smoothness specification. We are looking into getting an infrared camera, to check for temperature segregation.**
9. Are there any recent or pending rule changes by your state EPA that may impact specifications or changes to products? Has there been any recent legislation that will impact the refining or HMA paving industries? **No, not we know of.**
10. What is the singe most concerning issue with the quality of HMA in your state? **This is a loaded question. Some of our major concerns are: acids in our asphalt binders, not enough moisture to react with the lime properly, low AC content mix designs and density problems. We are also concerned about increasing political pressure for late season paving and night time paving when temperatures are not advantages.**